

CLAIMS

What is claimed is:

5     1.    A method for determining a predicted health of a set of components of a system that would result from an application of a proposed intervention to an existing system, comprising the steps of:

10         determining a set of modifications involved in the proposed intervention, each modification involving one or more of the components of the existing system;

15         for each modification, obtaining a set of component information that pertains to the modification from a knowledge base, each set of component information specifying a set of inter-dependencies among the components involved in the modification;

20         for each modification, determining whether the inter-dependencies specified in the component information are satisfied.

25     2.    The method of claim 1, wherein the inter-dependencies include a set of prerequisite components for one or more of the components.

30     3.    The method of claim 2, wherein the inter-dependencies include a prerequisite configuration for one or more of the prerequisite components.

4.    The method of claim 2, wherein the inter-dependencies include a prerequisite set of parameters for one or more of the prerequisite components.

5. The method of claim 1, wherein the inter-dependencies include one or more conflicting components for one or more of the components.

5 6. The method of claim 5, wherein the inter-dependencies include a conflicting configuration for one or more of the conflicting components.

7. The method of claim 5, wherein the inter-  
10 dependencies include a conflicting set of parameters for one or more of the conflicting components.

8. The method of claim 1, further comprising the  
15 step of determining one or more changes to the proposed intervention in response to the predicted health.

9. The method of claim 1, further comprising the  
20 step of generating a predicted health indicator by applying a combination function to a predicted health of each component in the system.

10. The method of claim 1, further comprising the  
25 step of determining an indication of uncertainty associated with the predicted system health.

11. An apparatus for determining a predicted health  
of a system that would result from an application of  
a proposed intervention to an existing system,  
30 comprising:

means for determining a set of modifications  
involved in the proposed intervention, each

modification involving one or more components of the existing system;

means for obtaining a set of component information that pertains to the modification from a knowledge base, each set of component information specifying a set of inter-dependencies among the components involved in the modification;

means for determining whether the inter-dependencies specified in the component information are satisfied.

12. The apparatus of claim 11, wherein the inter-dependencies include one or more prerequisite components for one or more of the components.

13. The apparatus of claim 12, wherein the inter-dependencies include a prerequisite configuration for one or more of the prerequisite components.

14. The apparatus of claim 12, wherein the inter-dependencies include a prerequisite set of parameters for one or more of the prerequisite components.

15. The apparatus of claim 11, wherein the inter-dependencies include one or more conflicting components for one or more of the components.

16. The apparatus of claim 15, wherein the inter-dependencies include a conflicting configuration for one or more of the conflicting components.

17. The apparatus of claim 15, wherein the inter-dependencies include a conflicting set of parameters for one or more of the conflicting components.

5 18. The apparatus of claim 11, further comprising means for determining one or more changes to the proposed intervention in response to the predicted health.

10 19. The apparatus of claim 11, further comprising means for generating a predicted health indicator by applying a combination function to a predicted health of each component in the system.

15 20. The apparatus of claim 11, further comprising means for determining an indication of uncertainty associated with the predicted system health.